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THE RELATIONSHIP BETWEEN LOCUS OF CONTROL AND LEARNING STYLES IN UNIVERSITY EDUCATION

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ABSTRACT

The present research aims to highlight the relationship between locus of control and learning styles. The study was attended by 225 students from several faculties with a humanistic profile in the University of Bucharest, aged between 22 and 23, both male and female. Statistically significant differences in terms of locus of control depending on learning styles, are to be measured in terms of the dependent relationship between the two variables ($p < 0.01$). On the other hand, we aimed to highlight gender differences depending on learning styles and locus of control ($p < 0.01$). The results can be used in the adaptation of teaching methods in the university environment.

KEYWORDS: locus of control, learning styles, personal characteristics, students, university environment

1. Introduction

The concept of *locus of control* was introduced by Julian Rotter in 1966, with reference to everyone's conception of the causes of important events in his life. Rotter's full name is *reinforcement locus of control*, viewing the concept through the lens of cognitive-behavioral theories. In his view, behavior is guided by reinforcements (rewards and punishments) through which individuals come to form beliefs about the causes of their actions. It can therefore be said that, in terms of the reward-punishment mechanism, the locus of control is generally coherent enough to provide a satisfactory explanation of reality or a *reward* on the affective and cognitive levels. Thus, over time, the individual comes to have certain beliefs about the causes of certain situations, as well as certain feelings towards those situations or about the possibility of influencing them (Popa-Velea, 2010, 151).

Understanding the concept of locus of control is facilitated by psychologist Philip Zimbardo (1985), who argues that its orientation refers to the belief that the results of our actions are either determined by what we do (internal locus of control) or are caused by events that out of our control (external locus of control). So, locus of control can be described as lying on a linear continuum from outside to inside:

a) External locus of control: the person believes that his own behavior is influenced by fate, luck or other external circumstances (Gifford & Bricello, 2006);

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b) Internal locus of control: the person believes that his own behavior is guided by personal decisions and efforts (Aniței, 2010).

Characteristics:

– locus of control is a learned perception. This means that we can change our perception and internalize our locus of control;

– the locus of control varies from one situation to another. There are areas in which we can manifest an internal locus of control, while in other contexts we have an external locus of control;

– the locus of control is influenced by the environment, culture, other personal variables.

People with internal locus of control accept responsibility for their life events, recognize that their life events are related to them, and therefore believe that the likelihood of achieving their goals is directly proportional to their effort and ability to learn from experiences repeated, exert more effort and persist longer in action, show increased commitment to their goals, have a lower level of anxiety, in the face of stressful events adopt a solution-oriented coping style, set ambitious goals, which which reflects their perception of control, act determined by their intrinsic motivation, show a greater level of autonomy in their work, cope more easily with ambiguous situations and are more satisfied with their lives.

Also, people with internal locus of control are considered to have fewer psychological illnesses (Antonvsky, 1991) due to their responsible behavior. People with an external locus of control blame circumstances and the environment for their failures, they do not see the connection between their efforts and the result of those efforts, they believe that luck has determined most of the significantly positive events in their lives, in the face of stressful events they ignore the problem or give in to it altogether they will not persevere in their actions when they encounter obstacles. Also, they are more prone to stress, dissatisfaction and depression, with its particular and extremely harmful form (through remanence) "learned helplessness" (Seligman, 1975).

Learning style is one of the most important resources for exploring and optimally exploiting learning resources (Negovan, 2005).

Learning style, as a result of the acquisition of autonomy in academic learning, is formed over time, after the internalization of a rich experience in the learning activity, but it is congruent with certain personality traits and dimensions.

Mumford and Honey (1982) describe four learning styles: active, reflective, theoretical and pragmatic.

a) *Activists* – get involved completely and without preconceived ideas in new experiences. They are open-minded, not at all skeptical, and this usually makes them enthusiastic about anything new. Their philosophy is I'll try anything at least once. Their days are full of activity, and they solve problems through imagination. They are excited by the challenges of new experiences, but bored with long-term implementation and consolidation. They are people who constantly interact with others and seek to center all activities around them. Learns best from activities where there are new experiences/problems/ opportunities to learn from; are engaged with other people with whom to exchange ideas and solve problems as part of a team; they have attention from others and can preside over meetings, lead discussions. They learn less and may react unfavorably to activities where: learning involves a passive role, they are asked to engage in solitary work, they are asked to predict in advance what they will learn, they are given statements that they perceive as theoretical, they are required to do a meticulous job that requires attention to detail.

b) *Reflectives* – like to stand aside to analyze experiences and observe them from many different perspectives. They collect information both from their own experience and from others and prefer to analyze it thoroughly before drawing a conclusion. Their philosophy is to be cautious: Look before you leap! and Night is a good counselor. They like to be passive in meetings and discussions. They prefer to observe other people in action. They learn best from activities where: they are allowed or encouraged to assist, think, analyze activities; can carry out meticulous research; they can reach a decision at their own pace, without tensions and short deadlines. They learn less and may react unfavorably to activities where: they are forced to be the center of attention, they are forced to do something without notice, they are given insufficient data on which to draw a conclusion.

c) *Theorists* – adopt and integrate observations into complex but logically correct theories. They tend to be perfectionists. They like to analyze and synthesize. They like to think in terms of basic assumptions, principles, theories, models and systems. Their philosophy emphasizes rationality and logic: *"If it's logical, then it's good"*. They tend to be detached, analytical, and committed to rational objectivity. They learn best from activities where: what they are given is part of a system, model, concept, theory; they have the opportunity to question and test the underlying methodology, assumptions or logic behind something. They learn less and may react unfavorably to activities where: they are forced to do something without apparent context or purpose; they are involved in unstructured activities, where ambiguity and uncertainty are accentuated; they are asked to act or decide without a basis in principles or concepts.

d) *Pragmatists* – are willing to try ideas, theories and techniques to see if they work in practice. I respond to requests and opportunities as challenges. Their philosophy is: "there's always a better way" and "if it works, it's good". Learn best from activities where: there is an obvious connection between the subject and a problem or opportunity; they are shown techniques for doing things with practical advantages; they are exposed to a model they can imitate; there is high validity in the learning activity (eg: a good simulation). They learn less and may react unfavorably to activities where: the learning process is not related to an immediate need; there are no practical examples or clear directions on how to do a certain thing; there is no apparent benefit from the learning activity.

2. Materials and Methods

2.1. Objectives

O1: Highlighting the relationship between internal locus of control and active and pragmatic learning styles and external locus of control and reflective and theoretical learning styles.

O2: Highlighting the differences between the participants' gender in terms of locus of control and students' learning styles.

2.2. Hypotheses

Ip.1: There is a statistically significant correlation between internal locus of control and active and pragmatic learning styles.

Ip.2: There is a statistically significant correlation between external locus of control and reflective and theoretical learning styles.

Ip.3: There are statistically significant differences in learning styles and locus of control according to students' gender.

2.3. Questionnaires

Two questionnaires were used for this study. Locus of control was measured using Rotter's (1966) questionnaire. The questionnaire was developed in a first version in 1964, containing 60 items.

The final version of the questionnaire includes 29 items, of which 23 are directly aimed at the place of control, and 6 items were included by the author to make the purpose of the test more ambiguous. Each item contains two statements, one referring to internality, the other to externality. The participant's task is to choose one of the two statements, depending on whether they agree or disagree with their content. Following the application of this test, each investigated subject will belong to a certain class, that of internals or the class of externals. The content of the items refers to various domains of life (eg: academic and professional success, interpersonal relationships, and politics). The score obtained from the accumulation of options for external locus of control can vary between 0 and 23. The higher the score, the more it indicates the subject's belief that the effects are caused by external factors. A score equal to or greater than 13 reveals the external orientation of the subject. The internal consistency coefficient of the questionnaire is equal to 0.88. The test-retest reliability coefficient for one month is 0.82.

Learning style was identified using the questionnaire developed by Mumford and Honey (2006). It includes 80 items, and the participants had the task of putting a V next to the statements they agreed with and an X next to those they did not identify with. The content of the items refers to all four learning styles: active (item example: "I often act without taking into account the possible consequences"), reflective (item example: "I like the types of activities that allow me to prepare and implement them thoroughly"), pragmatic (item example: "I agree to follow established procedures and strategies, as long as I can consider them an effective way to accomplish my work") and theoretical (item example: "I think he must receive rational and logical thinking").

The internal consistency coefficient of the questionnaire is equal to 0.80.

The questionnaires were applied in online format through Google Forms.

2.4. Sample

This study was carried out in the period 2019-2022. The study was attended by 225 students, 99 boys and 126 girls, aged between 22 and 23, with M = 22.5 and SD = 2.17, from several faculties with a humanistic profile within the University of Bucharest. 132 participants have internal locus of control (40 boys and 92 girls), and 99 (61 boys and 38 girls) have external locus of control (Table no. 1).

Table no. 1

Contingency Tables– differences in terms oflocus of control depending on the learning styles

	Internal locus of control	External locus of control
Active learning style	66	0
Pragmatic learning style	66	0
Reflective learning style	0	75
Theoretical learning style	0	99

88 of the girls and 38 of the boys have the active learning style, 38 of the girls and 88 of the boys have the pragmatic learning style, 38 of the girls and 37 of the boys have the reflective learning style, 38 of the girls and 61 of the boys have the learning style theoretically (Table no. 2).

Table no. 2

Contingency Tables Tests – differences in terms of gender depending on the learning styles, locus of control and autonomy in learning

	Gender		
Autonomy in learning	m	W	Total
Internal locus of control			
yes	40	92	132
External locus of control			
yes	61	38	99
Active learning style			
very strong preferences	38	88	126
moderate preferences	12	38	50
low preferences	49	0	49
Pragmatic learning style			
very strong preferences	38	88	126
moderate preferences	49	12	61
low preferences	12	26	38
Reflective learning style			
very strong preferences	37	38	75
moderate preferences	38	88	126
strong preferences	24	0	24
Theoretical learning style			
very strong preferences	61	38	99
moderate preferences	12	24	36
low preferences	26	64	90

3. Results

In the table below we can see that the active learning style and the pragmatic learning style are specific to the participants with the internal locus of control, and the participants with the external locus of control have the reflective and theoretical learning style, X^2 internal locus of control-active learning style = 73.383, X^2 internal locus of control-pragmatic learning style = 73.571, X^2 external locus of control-reflective learning style = 68.621, X^2 external locus of control-theoretical learning style = 85.891, $p < 0.01$, hypotheses 1 and 2.

Table no. 3

Chi-Squared Tests – differences in terms of locus of control depending on the learning styles

	Value	**df**	**p**
X^2internal locus of control-active learning style	73.383	2	< .001
X^2internal locus of control-pragmatic learning style	73.571	2	< .001
X^2external locus of control-reflective learning style	68.621	2	< .001
X^2external locus of control-theoretical learning style	85.891	2	< .001

There are statistically significant differences between girls and boys regarding locus of control and learning styles, hypothesis 3. Thus, active, pragmatic

and reflective learning styles and internal locus of control are specific to girls, and external locus of control and learning style theoretical learning are specific to boys (X^2 active learning style = 80,277, X^2 pragmatic learning style = 41,208, X^2 reflective learning style = 55,111, X^2 theoretical learning style = 21,162, X^2 internal locus of control = 22,256, X^2 external locus of control = 7,111, $p < 0.01$).

Table no. 4

Chi-Squared Tests – differences in terms of gender depending on the learning styles and locus of control

	Value	**df**	**p**
X^2active learning style	80.277	2	< .001
X^2 pragmatic learning style	41.208	2	< .001
X^2 reflective learning style	55.111	2	< .001
X^2 theoretical learning style	21.162	2	< .001
X^2 internal locus of control	22.256	1	0.008
X^2external locus of control	7.111	1	< .001

4. Discussions and Conclusions

Following the highlighting of the relationship between locus of control and learning styles, namely the fact that people with internal locus of control are oriented towards an active and pragmatic learning style, and people with external locus of control are oriented towards a reflective and theoretical learning style new ideas and proposals can be formulated towards a new approach regarding the way of teaching and learning among students. Knowing the optimal way to learn can lead to new, desired, high performance. Thus, people with internal locus of control will respond to problems of any kind through means such as imagination, promptness, attention, new experiences/problems/opportunities. Also through the desire to try new ideas and techniques in practice, internalists learn very well through imitation, validation, simulation activities.

Regarding personnel with an external locus of control, teaching methods can be approached that allow students to be encouraged to think, analyze activities, be meticulous at their own pace, without tension and short deadlines (Matei & Lincă, 2019).

The learning process of these people is based on certain assumptions, principles, theories, synthesizing models. All these statistically significant differences regarding the correlation between locus of control and learning style are intended to be used in achieving new performance among students (Lincă, 2016).

Knowing the way in which students learn better and the mechanisms for understanding and solving problems, we can say that the performances also want to be high (Miulescu & Matei, 2021).

In addition, we have shown in the present research that girls are inclined towards an internal locus of control, active, reflective and pragmatic learning styles, while boys have an external locus of control and a theoretical learning style.

5. Future Directions

It is possible to create products that reflect shallow thinking. However, the motivational factors associated with choice when individual learning styles are targeted in projects suggest that teaching to develop thinking skills in the context of individual learning styles increases the likelihood that students will develop these skills.

One question we are trying to answer is whether, among pupils and students, a good knowledge of their preferred way of learning leads to high performance.

As a future direction, we propose a new research that measures the differences between the performances in certain memorization and learning tasks of several groups in the conditions where the teaching or presentation of information is done in terms of knowing the relationship between the person's locus of control and the modality, the style own learning.

REFFERENCES

Aniţei, M. (2010). *Fundamentele psihologiei*. Bucharest: Editura Universitară.

Antonovsky, A. (1991). The Structural sources of salutogenic strenghts. În Cooper, C.L., & Payne, R. (Ed.) *Individual Differences: Personality and Stress*. New York: Wiley.

Gifford, D.D., Bricelo-Perriott, J., & Mianzo, F. (2006). Locus of control: Academic achievement and retention in a sample of university first-year students. *Journal of College Admission, Vol. 191, Issue 3,* 18-25.

Honey, P., & Mumford, A. (2006). *The Learning Styles Questionnaire, 80-item version*. Maidenhead, UK: Peter Honey Publications.

Honey, P., & Mumford, A. (1982). *The manual of learning styles.* Maidenhead: McGraw Hill.

Kolb, D.A. (1981). Learning styles and disciplinary differences. San Francisco: CA, Jossey Bass.

Lincă, F.I. (2016). The relationship between the risk decision making and framing effects. *Romanian Journal of Cognitive Behavioral Therapy and Hypnosis, Vol. 2, Issue 3*, 16-28.

Matei, F.L., & Lincă, F.I. (2019). Training needs of military students on intercultural competence. *Land Forces Academy Review, Vol. 4, Issue 96*, 291-296.

Miulescu, M.L., & Matei, F.L. (2021)."Distanced" times: investigating pre-service music teachers experiences on online learning and learning during the COVID-19 pandemic. *Journal of Pedagogy, LXIX, Issue 1*, 111-124.

Negovan, V. (2005). *Introducere în psihologia educaţiei*. Bucharest: Editura Universitară.

Popa-Velea, O. (2010). *Ştiinţele comportamentului uman: aplicaţii în medicină.* Bucharest: Editura Trei.

Rotter, J.B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs, Vol. 8, Issue 1*, 1-28.

Seligman, M.E.P. (1975). *Helplesness: On depression, development, and death*. San Francisco: W.H. Freeman.

Zimbardo, P. (1985). *Psychology and life*. 12th Edition. Boston, MA: Scott, Foresman and Co.